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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,394	10/24/2001	Mark J. Pellerite	56059US009	7743

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EXAMINER
ZACHARIA, RAMSEY E

ART UNIT	PAPER NUMBER
1773	9

DATE MAILED: 07/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/037,394	PELLERITE ET AL.	
	Examiner	Art Unit	
	Ramsey Zacharia	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 May 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14,15,23,26,27,29,30,32-36,38 and 39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14,15,23,26,27,29,30,32-36,38 and 39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2,3* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I in Paper No. 6 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Applicant's election of the species comprising a fluoroalkyl group and a polar group in Paper No. 6 is acknowledged.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 14, 15, 23, 24, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. (U.S. Patent 3,222,204) in view of Brice et al. (U.S. Patent 2,732,398).

Weber et al. teach glass beads that may be used in reflective coatings and films (column 1, lines 10-31). The beads are surface treated with a fluorocarbon compound to enable them to float in a binder layer such that they are about half-submerged (column 1, line 70-column 2, line 6). The glass beads have a refractive index of 1.5 and higher and a diameter of 25-1,000 μm (column 4, line 63-column 5, line 11), i.e. they are optical elements as defined by the instant

specification on lines 7-9 of page 5. The beads may be used to make highway paint (column 5, lines 10-15).

Weber et al. do not explicitly illustrate a fluorocarbon surface treatment that comprises a compound having a general formula as recited in instant claims 14 and 15. However, Weber et al. do explicitly teach that the compound may be an oleophobic fluorocarbon sizing agent as taught by U.S. Patent 2732,398 (i.e. Brice et al.).

Brice et al. teach a fluorocarbon sulfonic acid of the formula R_f-SO_3H, wherein R_f is a saturated fluorocarbon structure having 1-18 perfluorinated carbon atoms (column 2, lines 14-25). When R_f contains about 4 carbon atoms, this saturated fluorocarbon structure reads on the general formulas of instant claims 14 and 15.

Weber et al. teach that the disclosed oleophobic fluorocarbon sizing agents are known in the art as equivalent surface treating compounds for the glass beads. Therefore, because these agents were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to use the fluorocarbon compound of Brice et al. as the surface treating material.

Therefore, the inventions of claims 14, 15, 23, 24, 26, and 27 would have been obvious to one of ordinary skill in the art at the time the inventions were made.

5. Claims 14, 15, 29, 30, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belisle et al. (U.S. Patent 4,725,494) in view of Weber et al. (U.S. Patent 3,222,204) and Brice et al. (U.S. Patent 2,732,398).

Belisle et al. teach a retroreflective sheet comprising transparent microspheres partially embedded in a polymeric layer (column 2, lines 30-39). The microspheres are glass beads and have a preferred diameter of 20-120 μm (column 11, lines 43-54). Because the microspheres are made out of glass and refractive index is a material property, the microspheres should intrinsically have a refractive index of about 1.5 or higher (see page 5, lines 25-28 of the instant specification). The sheet comprises a transparent top coat, a bond layer adhered to the top coat, the microspheres embedded in the bond layer, a spacing layer on the other side of the bond layer, and a reflective layer on the spacing layer (see FIGURE and column 3, lines 51-63). To achieve uniform and hemispherical bead sinkage the microspheres may be treated as disclosed in U.S. Patent 3,222,204 (column 11, lines 55-60).

Belisle et al. do not explicitly illustrate a fluorocarbon surface treatment that comprises a compound having a general formula as recited in instant claims 14 and 15. However, Belisle et al. do explicitly teach that the microspheres may be treated with a fluorocarbon compound according to U.S. Patent 3,222,204 (i.e. Weber et al.).

Weber et al. teach glass beads that may be used in reflective coatings and films (column 1, lines 10-31). The beads are surface treated with a fluorocarbon compound to enable them to float in a binder layer such that they are about half-submerged (column 1, line 70-column 2, line 6). Weber et al. do not explicitly illustrate a fluorocarbon surface treatment that comprises a compound having a general formula as recited in instant claims 14 and 15. However, Weber et al. do explicitly teach that the compound may be an oleophobic fluorocarbon sizing agent as taught by U.S. Patent 2732,398 (i.e. Brice et al.).

Brice et al. teach a fluorocarbon sulfonic acid of the formula R_f-SO_3H, wherein R_f is a saturated fluorocarbon structure having 1-18 perfluorinated carbon atoms (column 2, lines 14-25). When R_f contains about 4 carbon atoms, this saturated fluorocarbon structure reads on the general formulas of instant claims 14 and 15.

Weber et al. teach that the disclosed oleophobic fluorocarbon sizing agents are known in the art as equivalent surface treating compounds for the glass beads. Therefore, because these agents were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to use the fluorocarbon compound of Brice et al. as the surface treating material. Moreover, one of ordinary skill in the art would be motivated to treat the microspheres of Belisle et al. to yield a product with uniform hemispherical sinkage of the microspheres into the bond layer.

Therefore, the inventions of claims 14, 15, 29, 30, 32, and 33 would have been obvious to one of ordinary skill in the art at the time the inventions were made.

6. Claims 14, 15, 35, 36, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris et al. (U.S. Patent 6,204,971) in view of Weber et al. (U.S. Patent 3,222,204) and Brice et al. (U.S. Patent 2,732,398).

Morris et al. teach a rear projector screen comprising glass microspheres having a refractive index of 1.5 to 1.7 (column 2, lines65-column 3, line 10). In the embodiment of Example 1, the microspheres may have a particle size of between 35 and 150 μm. The microspheres are embedded in an opaque layer (Figure 22 and column 8, lines 35-46). Prior to embedding, the microspheres are treated with a fluorochemical compound as disclosed in U.S.

Patent 3,222,204, i.e. Weber et al. (column 10, lines 26-42). Weber et al. do not explicitly illustrate a fluorocarbon surface treatment that comprises a compound having a general formula as recited in instant claims 14 and 15. However, Weber et al. do explicitly teach that the compound may be an oleophobic fluorocarbon sizing agent as taught by U.S. Patent 2732,398 (i.e. Brice et al.).

Brice et al. teach a fluorocarbon sulfonic acid of the formula R_f-SO_3H, wherein R_f is a saturated fluorocarbon structure having 1-18 perfluorinated carbon atoms (column 2, lines 14-25). When R_f contains about 4 carbon atoms, this saturated fluorocarbon structure reads on the general formulas of instant claims 14 and 15.

Weber et al. teach that the disclosed oleophobic fluorocarbon sizing agents are known in the art as equivalent surface treating compounds for the glass beads. Therefore, because these agents were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to use the fluorocarbon compound of Brice et al. as the surface treating material that is then applied to the microspheres of Morris et al.

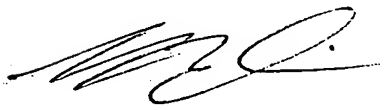
Therefore, the inventions of claims 14, 15, 35, 36, 38, and 39 would have been obvious to one of ordinary skill in the art at the time the inventions were made.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (703) 305-0503. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for non after-final correspondences and (703) 872-9311 for after-final correspondences.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Ramsey Zacharia
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6/27/03